

AMENDMENTS TO THE CLAIMS

1. (Original) A process for the preparation of ethyleneamines by continuous reaction of ethylenediamine (EDA) in the presence of a heterogeneous catalyst, which comprises carrying out the reaction in a reaction column by means of reactive distillation.
2. (Original) The process for the preparation of ethyleneamines according to claim 1, where the ethyleneamines are diethylenetriamine (DETA), piperazine (PIP), and/or triethylenetetramine (TETA).
3. (Currently amended) The process according to ~~claims 1 or 2~~ claim 1, wherein the absolute pressure in the column is in the range from > 0 to 20 bar.
4. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the temperature in the section of the column in which the reaction of EDA to ethyleneamines takes place (reaction zone) is in the range from 100 to 200°C.
5. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the number of theoretical plates in the column is in the range from 5 to 100 in total.
6. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the number of theoretical plates in the reaction zone is in the range from 1 to 30.
7. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the number of theoretical plates in the enriching section above the reaction zone is in the range from 0 to 30.
8. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the number of theoretical plates in the stripping section below the reaction zone is in the range from 0 to 40.

9. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the catalyst used in the reaction zone is a catalyst comprising Ni, Co, Cu, Ru, Re, Rh, Pd and/or Pt or a shape-selective zeolite catalyst or a phosphate catalyst.
10. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the catalyst used in the reaction zone is a catalyst comprising Pd and zirconium dioxide support material.
11. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the catalyst is introduced into the reaction column in the form of a loose bed.
12. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the catalyst is introduced into a distillation packing in the form of a loose bed.
13. (Currently amended) The process according to ~~any of claims 1 to 10~~ claim 1, wherein the catalyst is in the form of a coating on a distillation packing.
14. (Currently amended) The process according to ~~any of claims 1 to 10~~ claim 1, wherein the catalyst is in a retention container situated above the column.
15. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the addition of EDA to the column takes place in liquid form below the reaction zone.
16. (Currently amended) The process according to ~~any of claims 1 to 14~~ claim 1, wherein the addition of EDA to the column takes place in a gaseous form below the reaction zone.
17. (Currently amended) The process according to ~~any of claims 1 to 14~~ claim 1, wherein the addition of EDA to the column takes place in liquid form above the reaction zone.
18. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein EDA is passed to the column in a purity of >98% by weight.
19. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the column comprises introduced EDA, piperazine (PIP) and/or other ethyleneamines.

20. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the reaction is carried out in the presence of hydrogen.
21. (Currently amended) The process according to ~~the preceding~~ claim 20, wherein the reaction is carried out in the presence of from 0.0001 to 1% by weight of hydrogen, based on the feed amount of EDA.
22. (Currently amended) The process according to ~~either of the two preceding claims~~ claim 20, wherein the addition of hydrogen to the column takes place below the reaction zone.
23. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein a mixture of ammonia, other components with a boiling point lower than DETA (low-boiling components) and if appropriate hydrogen is removed via the top of the column.
24. (Currently amended) The process according to ~~the preceding claim~~ 23, wherein the mixture removed from the top of the column also comprises partial amounts of unreacted EDA.
25. (Currently amended) The process according to ~~either of the two preceding claims~~ claim 23, wherein the mixture removed overhead is partially condensed, and during this ammonia and if appropriate hydrogen are removed predominantly in gaseous form, and the liquefied fraction is fed to the column as reflux.
26. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the weight ratio of the amount of reflux in the column to the amount of feed to the column is in the range from 01. to 30.
27. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein a mixture of DETA, piperazine (PIP), TETA and other components with a boiling point higher than DETA (high-boiling components) is removed by the bottom of the column.
28. (Currently amended) The process according to ~~the preceding claim~~ 27, wherein the mixture removed by the bottom of the column also comprises partial amounts of unreacted EDA or the total amount of unreacted EDA.

29. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein the column below the reaction zone is divided by a side-take off.

30. (Currently amended) The process according to ~~the preceding~~ claim 29, wherein unreacted EDA, PIP or mixtures thereof are removed via the side take-off.

31. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1, wherein product removed via the side take-off comprises DETA.

32. (Currently amended) The process according to ~~any of the three preceding claims~~ claim 1, wherein product produced via the side take-off is removed in liquid form.

33. (Currently amended) The process according to ~~any of claims 29 to 31~~ claim 29, wherein product produced via the side take-off is removed in gaseous form.

34. (Currently amended) The process according to ~~any of the preceding claims~~ claim 1 for producing DETA at a selectivity of >20%, based on EDA, coupled with an EDA conversion of > 30%.